

Neuroglycan C (h): 293T Lysate: sc-129246

BACKGROUND

Neuroglycan C is a brain-specific chondroitin sulfate proteoglycan (CSPG) implicated in the proliferation of neural stem and progenitor cells. Neuroglycan C is a single-pass membrane protein that can manifest as a part-time proteoglycan depending on the tissue expressing it. In its proteoglycan form, Neuroglycan C exhibits chondroitin sulfate glycans and functions as a receptor for midkine, a growth factor that binds heparin, to affect cytoskeletal changes. By means of ectodomain shedding, the ectodomain of Neuroglycan C is able to enhance neurite outgrowth from neurons. Neurite growth stimulation is affected by both an EGF-like and an acidic amino acid domain found on the shed ectodomain. Both domains instigate neurite growth, however, these domains exhibit differing functionality as to number of neurites produced and neuron types stimulated.

REFERENCES

1. Ishikawa, K., Nitta, A., Mizoguchi, H., Mohri, A., Murai, R., Miyamoto, Y., Noda, Y., Kitaichi, K., Yamada, K. and Nabeshima, T. 2006. Effects of single and repeated administration of methamphetamine or morphine on neuroglycan C gene expression in the rat brain. *Int. J. Neuropsychopharmacol.* 9: 407-415.
2. Aono, S., Tokita, Y., Yasuda, Y., Hirano, K., Yamauchi, S., Shuo, T., Matsui, F., Keino, H., Kashiwai, A., Kawamura, N., Shimada, A., Kishikawa, M., Asai, M. and Oohira, A. 2006. Expression and identification of a new splice variant of neuroglycan C, a transmembrane chondroitin sulfate proteoglycan, in the human brain. *J. Neurosci. Res.* 83: 110-118.
3. Ida, M., Shuo, T., Hirano, K., Tokita, Y., Nakanishi, K., Matsui, F., Aono, S., Fujita, H., Fujiwara, Y., Kaji, T. and Oohira, A. 2006. Identification and functions of chondroitin sulfate in the milieu of neural stem cells. *J. Biol. Chem.* 281: 5982-5991.
4. Nakanishi, K., Aono, S., Hirano, K., Kuroda, Y., Ida, M., Tokita, Y., Matsui, F. and Oohira, A. 2006. Identification of neurite outgrowth-promoting domains of neuroglycan C, a brain-specific chondroitin sulfate proteoglycan, and involvement of phosphatidylinositol 3-kinase and protein kinase C signaling pathways in neuritogenesis. *J. Biol. Chem.* 281: 24970-24978.
5. Ichihara-Tanaka, K., Oohira, A., Rumsby, M. and Muramatsu, T. 2006. Neuroglycan C is a novel midkine receptor involved in process elongation of oligodendroglial precursor-like cells. *J. Biol. Chem.* 281: 30857-30864.
6. Nakanishi, K. and Oohira, A. 2007. Function of neuroglycan C (NGC), a brain-specific chondroitin sulfate proteoglycan. *Seikagaku* 79: 370-374.
7. Shuo, T., Aono, S., Nakanishi, K., Tokita, Y., Kuroda, Y., Ida, M., Matsui, F., Maruyama, H., Kaji, T. and Oohira, A. 2007. Ectodomain shedding of neuroglycan C, a brain-specific chondroitin sulfate proteoglycan, by TIMP-2 and TIMP-3-sensitive proteolysis. *J. Neurochem.* 102: 1561-1568.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: CSPG5 (human) mapping to 3p21.31.

PRODUCT

Neuroglycan C (h): 293T Lysate represents a lysate of human Neuroglycan C transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Neuroglycan C (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Neuroglycan C antibodies. Recommended use: 10-20 µl per lane.

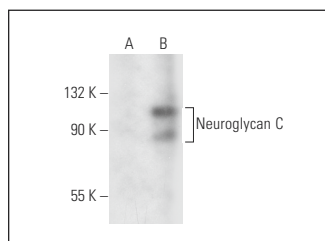
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Neuroglycan C (A-7): sc-398051 is recommended as a positive control antibody for Western Blot analysis of enhanced human Neuroglycan C expression in Neuroglycan C transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Neuroglycan C (A-7): sc-398051. Western blot analysis of Neuroglycan C expression in non-transfected: sc-117752 (A) and human Neuroglycan C transfected: sc-129246 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.